CLAIMS

1. A process for producing microcapsules each comprising a core-shell type structure having a core portion comprising at least one functional compound and a shell portion, the process comprising:

step (1): mixing at least one functional compound, a water-soluble monomer (monomer (A)), a crosslinkable monomer having two or more (meth)acryloyl groups (monomer (B)), an oil-soluble polymerization initiator, an organic chain transfer agent, and water, to obtain a monomer emulsion; and

step (2): heating the monomer emulsion obtained in the step (1) to polymerize the monomers, thereby obtaining microcapsules,

the organic chain transfer agent having a ClogP value of 3 or less, and the organic chain transfer agent is a thiol compound.

2. The process for producing microcapsules according to claim 1, wherein the use amount of the monomer (A) is 25% by mass or more and 80% by mass or less based on 100% by mass of a total amount of the monomers used.

3. The process for producing microcapsules according to claim 1 or 2, wherein the use amount of the organic chain transfer agent is 0.05 parts by mass or more and 10 parts by mass or less based on 100 parts by mass of a total amount of the monomers used.

4. The process for producing microcapsules according to any one of claims 1 to 3, wherein the use amount of the organic chain transfer agent is 0.5 parts by mass or more and 20 parts by mass or less based on 100 parts by mass of the use amount of the monomer (A).

5. The process for producing microcapsules according to any one of claims 1 to 4, wherein the use amount of the monomer (B) is 10% by mass or more and 60% by mass or less based on 100% by mass of a total amount of the monomers used.

6. The process for producing microcapsules according to any one of claims 1 to 5, wherein the monomer (A) has a carboxy group.

7. The process for producing microcapsules according to any one of claims 1 to 6, wherein the monomer (A) has an ethylenic double bond.

8. The process for producing microcapsules according to claim 7, wherein a structure having the ethylenic double bond is a (meth)acryloyl structure, a vinyl structure, or an allyl structure.

9. The process for producing microcapsules according to any one of claims 1 to 8, wherein the monomer (B) is at least one selected from the group consisting of a diester between a diol compound and (meth)acrylic acid, urethane diacrylate, a diester between a trihydric or higher polyhydric alcohol and (meth)acrylic acid, a triester between a trihydric or higher polyhydric alcohol and (meth)acrylic acid, and a tetraester between a trihydric or higher polyhydric alcohol and (meth)acrylic acid.

10. The process for producing microcapsules according to any one of claims 1 to 9, wherein the monomer (A) is at least one selected from the group consisting of methacrylic acid, acrylic acid, fumaric acid, maleic acid, and itaconic acid.

11. The process for producing microcapsules according to any one of claims 1 to 10, wherein the monomer (B) is at least one selected from the group consisting of ethylene glycol di(meth)acrylate, 1,4-butanediol di(meth)acrylate, 1,3-butanediol di(meth)acrylate, 1,6-hexanediol di(meth)acrylate, and 1,10-decanediol di(meth)acrylate.

12. The process for producing microcapsules according to any one of claims 1 to 11, wherein in the step (1), other monomer than the monomers (A) and (B) is further used.

13. The process for producing microcapsules according to claim 12, wherein the use amount of the other monomer than the monomers (A) and (B) is 1% by mass or more and 20% by mass or less based on 100% by mass of a total amount of the monomers used.

14. The process for producing microcapsules according to any one of claims 1 to 13, wherein an average particle diameter of the microcapsules obtained is 0.1 μm or more and 50 μm or less.

15. The process for producing microcapsules according to any one of claims 1 to 14, wherein the step (1) comprises the following steps (1-1) to (1-3):

step (1-1): mixing at least one functional compound, a water-soluble monomer

(monomer (A)), a crosslinkable monomer having two or more (meth)acryloyl groups (monomer (B)), and an oil-soluble polymerization initiator, to obtain an oily solution;

step (1-2): mixing an organic chain transfer agent having a ClogP value of 3 or less, an emulsifier, and water, to obtain an aqueous solution; and

step (1-3): mixing the oily solution obtained in the step (1-1) and the aqueous solution obtained in the step (1-2) and emulsifying the mixture, to obtain a monomer emulsion.